

EXPOSED PHASE EDGE MASK METHOD FOR GENERATING PERIODIC STRUCTURE WITH SUBWAVELENGTH FEATURE

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ABSTRACT OF THE DISCLOSURE

A method for forming small repeating structures, such as contact holes, is disclosed. The method comprises using a phase shift mask to perform a first exposure of a photoresist layer formed atop of a substrate. The phase shift mask includes etched regions and unetched regions. Next, the position of the phase shift mask is adjusted relative to the photoresist layer. A second exposure through the adjusted phase shift mask is performed on the photoresist layer. The photoresist is developed and is used as a mask for etching the substrate. After etch, the photoresist is stripped and cleaned. The resulted small sub-wavelength pattern is formed from the disclosed technique.

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TO BE FORWARDED TO THE PATENT OFFICE